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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,947	12/17/2001	Dung H. Ky	5953.2-1	2608

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EXAMINER

HARPER, V PAUL

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 04/21/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,947

Applicant(s)

KY, DUNG H.

Examiner

V. Paul Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 3/5/03 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 23, 25, 28, 29, 34, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchins (Patent No. 5,208,897).

Regarding claims 23 and 34, Hutchins teaches a method for speech recognition based on subsyllable spellings. Hutchins' method includes the following steps: the digitizing of an audio input (Fig. 4A, **12 14** col. 3, lines 16-20) and then after passing the digitized data through an "acoustics to subsyllables" unit generating a stream of binary data (Fig. 4A, **16**) where the ASCII data indicated is inherently a binary representation of characters, which corresponds to "receiving a digital data representation of speech comprising a stream of binary bits"; generating the ASCII spellings of the subsyllables

(Fig. 4A, see label between blocks **16** and **20**) where an ASCII character is inherently a grouping of binary bits that represents a character (including letters), which corresponds to “grouping sets of the binary bits; and mapping each set to a representation of a letter”; converting the letters (spellings of the syllables) into words where spellings of words are inherently separated by a space associated with a pause in speech (Fig. 4A, **20 28**, col. 11, lines 25-42), which corresponds to “grouping the representations of letters into words, the words being separated by a character representation of pause in the speech”; converting a sequence of subsyllables into syllables (col. 3, lines 25-34), which corresponds to “determining the number of syllables in the digital data representation of the speech for a corresponding word”; and verifying the conformance of the input to words in a word list (Fig. 4A, **38 40 22 20**, col. 3, lines 25-34), which corresponds to “searching a library containing a plurality of words according to the representations of letters and the number of syllables of each word, and providing a matched word in response thereto.”

Regarding claim 25, Hutchins teaches everything claimed, as applied above (see claims 23 and 34). In addition, Hutchins teaches the use of the ASCII representation of speech as characters, syllables and words (Fig. 4A, in particular between **16** and **20**, col. 12, Ins. 19-30), which corresponds to “mapping each set of binary bits to a character representation of speech comprises mapping each set of binary bits to an ASCII representation of speech.”

Regarding claims 28 and 38, Hutchins teaches everything claimed, as applied above (see claims 23 and 34), and as mentioned above, Hutchins teaches converting

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the letters (spellings of the syllables) into words where spellings of words are inherently separated by a space associated with a pause in speech (Fig. 4A, **20 28**, col. 11, lines 25-42), which corresponds "mapping each set of binary bits to a representation of a letter comprises mapping pause in the speech to a character representation of space."

Regarding claims 29 and 39, Hutchins teaches everything claimed, as applied above (see claims 23 and 39, respectively). Also, as mentioned above in the rejection of claims 23 and 39, Hutchins teaches that bits are mapped to letters and words and, in addition, Hutchins teaches that the speech recognizer may be used to recognize commands (col. 1, line 61, col. 2, lines 62-65), which corresponds to "mapping each set of binary bits to a representation of letter comprises mapping a predetermined number sets of binary bits to a recognized command."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 24, 26, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchins in view of McNamara (*Technical Aspects of Data Communications*, Digital Equipment Corporation, 1982).

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Regarding claims 24 and 35, Hutchins teaches everything claimed, as applied above (see claims 23 and 34, respectively). But Hutchins does not specifically teach "grouping sets of the binary bits comprises grouping sets of eight binary bits." However, the examiner contends that this concept was well known in the art, as taught by McNamara.

In the same field of endeavor, McNamara describes data communications and teaches that ASCII code uses eight bits per character (p.3, ¶13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins by specifically providing an eight bit ASCII representation, as taught by McNamara, since this is a standard ASCII representation for a character.

Regarding claims 26 and 36, Hutchins teaches everything claimed, as applied above (see claims 23 and 34, respectively). But Hutchins does not specifically teach "mapping each set of binary bits to a representation of a letter comprises querying a table comprising binary bit sets and their respective character representation of speech." However, the examiner contends that this concept was well known in the art, as taught by McNamara.

McNamara describes data communications and teaches a mapping between numbers and corresponding characters (pp. 281-282, Table C-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins by specifically providing the number

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to character mapping, as taught by McNamara, for the purpose of representing characters.

4. Claims 27, 30-33, 37 and 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchins in view of Gould (U.S. Patent No. 5,794,189).

Regarding claims 27 and 37, Hutchins teaches everything claimed, as applied above (see claim 1), but Hutchins does not specifically teach that "receiving digital data representation of speech comprises receiving the binary bit stream from a sound card." However, the examiner contends that this concept was well known in the art, as taught by Gould.

In the same field of endeavor, Gould discloses a speech recognition system that uses a sound card to digitize the user input (Fig. 1 **12 14 16 18 38**, col. 5, lines 11-25, col. 7, lines 1-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins by specifically using a sound card to digitized audio input, as taught by Gould, as a low-cost and conventional way to input user utterances.

Regarding claims 30 and 40, Hutchins teaches everything claimed, as applied above (see claims 23 and 34, respectively), but Hutchins does not specifically teach "providing a matched word in response to searching the library comprises displaying the matched word on a computer screen." However, the examiner contends that this concept was well known in the art, as taught by Gould.

Gould teaches the use of a display screen where recognized text can be displayed (Fig. 1 **135**, col. 7, lines 49-51).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins by specifically providing the display and editing capabilities, as taught by Gould, for the purpose of giving the user feedback on the recognized text and the opportunity to edit the text.

Regarding claims 31 and 41, Hutchins teaches everything claimed, as applied above (see claims 23 and 34), but Hutchins does not specifically teach that "receiving a user input comprising letters of at least one word." However, the examiner contends that this concept was well known in the art, as taught by Gould.

Gould discloses a speech recognition system that allows for the entry of single letters by spelling the words (col. 2, lines 1-2, col. 4, lines 17-65).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins by specifically allowing for the entry of individual letters, as taught by Gould, as a way to implement editorial corrections.

In addition, Hutchins does not specifically teach "storing the user input and associating the letters with the received digital data representation of speech." However, the examiner contends that this concept was well known in the art, as taught by Gould.

Gould further discloses the ability to store user input as evidenced by the fact that Gould supports the operations of entering (with necessary storage) and editing words using speech recognition (col. 4, lines 17-65).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins by specifically allowing for the entry of individual letters, as taught by Gould, as a way to implement editorial corrections.

Regarding claims 32 and 42, Hutchins in view of Gould teach everything claimed, as applied above (see claims 31 and 41, respectively), but Hutchins in view of Gould do not specifically teach that "receiving a user input comprises receiving user input entered via a keyboard." However, the examiner contends that this concept was well known in the art, as taught by Gould.

Gould further teaches that user input can be performed with a keyboard (col. 4, lines 18-39, line 22, in particular).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins in view of Gould by specifically providing for keyboard input, as taught by Gould, for the purpose of editing the user input.

Regarding claims 33 and 43, Hutchins in view of Gould teach everything claimed, as applied above (see claims 31 and 41, respectively), but Hutchins in view of Gould do not specifically teach "receiving a user input comprises receiving user auditory input from a sound card." However, the examiner contends that this concept was well known in the art, as taught by Gould.

Gould further teaches that user input can be from a sound card (Fig. 1 12 14 16, col. 5, lines 11-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins in view of Gould by specifically providing a sound card, as taught by Gould, since a sound card is a common and economical means of inputting audio data.

Regarding claim 44, Hutchins teaches a method for speech recognition based on subsyllable spellings. But Hutchins does not specifically teach the following steps: "[(1)] receiving a binary bit stream representation of a user's training speech comprising text of known words; [(2)] mapping the received binary bit stream to the known words."

However, the examiner contends that these steps were well known in the art, as taught by Gould.

Gould teaches a process of continuous speech recognition where training is continuous and the user's input is converted to binary data that corresponds to text (Fig 1, col. 1, lines 39-50, col. 5, lines 12-25), corresponding to (1), above; and adapting the speech models of previously entered words (col. 1, lines 40-50), corresponding to (2), above.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hutchins in view of Gould by specifically providing training, as taught by Gould, for the purpose of updating the binary data (speech models) and text associated with a recognition word.

In addition, Hutchings teaches the digitizing of an audio input generating a stream of binary data (Fig. 4A, **12 14 16** col. 3, lines 16-20) that is passed an "acoustics to subsyllables" unit generating a stream of binary data (Fig. 4A, **16**) where the ASCII

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data indicated is inherently a binary representation (i.e., mapping) of characters, which corresponds to "storing the mapping of binary bit stream to known words in a binary-to-letter table." The remaining limitations in this claim are similar to those given in claims 23 and 24 and are rejected for the same reasons.

Response to Arguments

5. Applicant's arguments with respect to claims 23-44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to:

Crystal Park II
2121 Crystal Drive
Arlington, VA.
Sixth Floor (Receptionist)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. V. Paul Harper whose telephone number is (703) 305-4197. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold, can be reached on (703) 305-4379. The fax phone number for the Technology Center 2600 is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service office whose telephone number is (703) 306-0377.

VPH/vph
April 17, 2003

Marsha D Banks-Harold
MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600